

RELATIONSHIPS AMONG TEAMWORK BEHAVIOR, TRUST, PERCEIVED TEAM SUPPORT, AND TEAM COMMITMENT

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Our aim in this study was to probe into the factors of team members' team commitment in order to determine if members' teamwork behaviors significantly influence their trust, and if the members' perception of team support influences their attitude or behavior within a team. A total of 548 questionnaires were distributed to teams participating in competitions, and 206 valid samples were collected (rate of return = 38%). The results of structural equation modeling showed that teamwork behaviors, trust, and perceived team support significantly influenced team commitment, teamwork behaviors significantly influenced trust among the members, and perceived team support significantly influenced teamwork behaviors, trust, and team commitment.

Keywords: teamwork behaviors, trust, perceived team support, team commitment.

Reichers (1985) proposed that commitment refers to multiple foci; for instance, employees would have more loyalty and ties to those in groups working with them as a team because they could have immediate feedback from these people (Bishop, Scott, Goldsby, & Cropanzano, 2005). Herscovitch and Meyer (2002) showed that compared with ordinary organizational commitment, a more specific commitment focus can predict the related behaviors. Thus, with regard to team

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commitment, the interactions within the team are very critical (Marks, Mathieu, & Zaccaro, 2001).

According to the findings of several researchers, teamwork can lead to better performance for organizations, such as the enhancement of productivity in the workplace, improvement of service quality, greater satisfaction of employees with jobs, less absence, and reduced turnover rate. However, not all teams are successful because arrangements of the individuals' cooperation in the work may not be satisfactory and the members should be allowed to select teammates (Salas, Bowers, & Cannon-Bowers, 1995). Marks et al. (2001) found that the success of teams in accomplishing their goals is related not only to the members' talents and their effective resources, but is also associated with their interactions, as team interactions are based on cognition, language, and the members' interdependency. The input is transformed into output in order to fulfill the goals of the teams. In addition, team interactions include the members' behavior, cognition, and affection (Ilgen, Hollenbeck, Johnson, & Jundt, 2005). According to Rousseau, Aubé, and Savoie (2006), an individual's inner cognition (inclinations and shared mental model) and feelings (sense of belonging) would certainly be transformed into the behaviors, which would influence the final output of the teams. Rousseau et al. called the process of team interactions *teamwork behaviors*. However, teamwork behaviors do not refer to one concept, and the members' interactions could be very diverse and relatively different (Rousseau et al.). Thus, after reviewing the related studies, Rousseau and colleagues proposed a framework of *task-related collaborative behaviors, including coordination, cooperation, and information exchange* in order to measure teamwork behaviors.

In addition, with regard to interpersonal relationships and group interactions in the workplace, trust is regarded as a very important factor (Costa, 2003), as the members' interactions would influence their trust in others. Trust can even be treated as representative of all interpersonal relationships (Bligh, Pearce, & Kohles, 2006). Although Powell, Galvin, and Piccoli (2006) suggested a positive correlation between trust and commitment, findings gained in some studies demonstrated an insignificant relationship (Park, Henkin, & Egley, 2005). In past research on trust the tendency has been to treat interpersonal affiliations and risk undertaking as the variables; however, it is important to distinguish trust from an affective and a cognitive perspective, as it could involve any of the personnel within the organization (Bligh et al., 2006). Therefore, based on the classifications of McAllister (1995), in this study we divided trust into affective-based and cognitive-based classifications. Affective-based trust is characterized by a high degree of citizenship and frequent social interactions. Two parties care about each other, exchange information, and are even willing to share more sensitive personal information or thoughts. Cognitive-based trust

depends on different goals and situations. When a person perceives that the past role performance of another person is reliable and that this individual meets professional qualifications, these two people will trust each other.

In addition, some scholars have probed into the factors of commitment from the view of social exchange theory and demonstrated that in the workplace, employees would seek a balance for exchange. When individuals perceive that the other employees value and care for them, they would respond with feedback (Bishop et al., 2005). Eisenberger, Huntington, Hutchison, and Sowa (1986) named employees' perceptions of an organization as *perceived organizational support* (POS), and found that this influences employees' loyalty to the organization. Rhoades and Eisenberger (2002) generalized the antecedents and predictors of POS and listed the antecedents as organizational fairness, organizational returns, work conditions, and personality traits. They identified predictors as organizational commitment, work involvement, performance, turnover intentions, and behavior.

In this study we examined factors of team commitment, including teamwork behaviors, trust, and perceived team support. Since trust is critical within a team, our aim was to determine whether or not teamwork behavior significantly influences trust. Finally, from the perspective of social exchange theory, the aim in this study was to determine if the members' perceived team support would influence the interactions and trust among the individual members of a team.

Based upon the research background, motives, and a literature review, we constructed the research framework, as shown in Figure 1, which included 6 hypotheses as follows:

H1: Teamwork behaviors will influence team commitment.

H2: Teamwork behaviors will influence trust.

H3: Trust will influence team commitment.

H4: Perceived team support will influence team behaviors.

H5: Perceived team support will influence trust.

H6: Perceived team support will influence team commitment.

METHOD

PROCEDURE AND PARTICIPANTS

We conducted questionnaire surveys in which participants rated their cooperation with other team members and collected data rated on 5-point Likert scales. Since it was difficult to assemble team samples, we used the teams joining national competitions in Taiwan as our participants. The competitions were held from October 18, 2008 to January 31, 2009. One week before the competitions, the researcher contacted the organizers by email or telephone. Upon the approval of the organizers, the researcher distributed 548 questionnaires during the

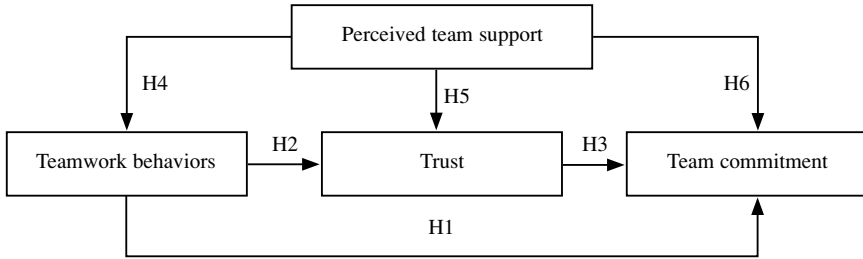


Figure 1. Research framework.

competitions. After eliminating those participants who returned incomplete questionnaires, 206 valid samples were collected (rate of return = 38%).

According to the classifications of Rousseau et al. (2006), we divided teamwork behavior into coordination, cooperation, and information sharing which were assessed by 13 items. Regarding the trust of the team, based upon the classification of McAllister (1995), trust was divided into affective-based and cognitive-based trust and these were measured by 11 items. The measurement of team commitment was based on the Organizational Commitment Questionnaire (OCQ; Bishop & Scott, 2000) and there were eight items. The scale of perceived team support (eight items) was developed according to the questionnaire used by Rhoades, Eisenberger, and Armeli (2001). Finally, we examined the causal relationships among the variables using structural equation modeling (SEM) in order to validate the hypotheses.

DATA ANALYSIS

RELIABILITY AND VALIDITY TEST

Reliability and validity tests in this study are based on composite reliability (CR) and average variance extracted (AVE), and the results are shown in Table 1. The CR of all latent variables is greater than 0.8 (over the suggested value of 0.7), which means that the internal consistency of the model is positive. AVE is greater than 0.5, which is above the threshold value of 0.5. Thus, the observation variance explained by the latent variables is greater than the measurement errors, which demonstrates good reliability and validity of the latent variables.

TABLE 1
RELIABILITY AND VALIDITY TESTS

Constructs	Latent variables	CR	AVE
Teamwork behavior	Coordination	0.86	0.52
	Cooperation	0.88	0.70
	Information share	0.88	0.65
	Affective-based trust	0.92	0.71
Trust	Cognitive-based trust	0.89	0.58
Perceived team support	Perceived team support	0.96	0.73
Team commitment	Team commitment	0.96	0.76

Note: (1) $CR = (\sum \text{normalized factor loading})^2 / [(\sum \text{normalized factor loading})^2 + (\sum \text{measurement errors})]$

(2) $AVE = (\sum \text{normalized factor loading}^2) / [(\sum \text{normalized factor loading}^2) + (\sum \text{measurement errors})]$

STRUCTURAL MODEL TEST

In this study we compared the models by nested model and the results are shown in Table 2. There are five models shown. Model 1 is the one-factor model, including perceived team support, teamwork behavior, trust, and team commitment; model 2 is the two-factor model, including perceived team support, teamwork behavior, trust (Factor 1), and team commitment (Factor 2); model 3 is the three-factor model, including perceived team support (Factor 1), teamwork behavior, trust (Factor 2), and team commitment (Factor 3); models 4 and 5 are the four-factor models, including the independent factors of the variables: perceived team support (Factor 1), teamwork behavior (Factor 2), trust (Factor 3), and team commitment (Factor 4). The only difference is that model 4 is a complete mediating model, whereas, model 5 is an incomplete mediating model. In Table 2, the chi-square test results demonstrate the significant differences among the models and the compatibility with data is improved.

TABLE 2
COMPARISON OF THE FIT OF DIFFERENT MODELS

Models	χ^2	<i>df</i>	$\Delta\chi^2$	χ^2/df	<i>p</i>	GFI	NNFI	CFI	SRMR
Standard	-	-	-	<3>0.05	>0.9	>0.9	>0.9	<0.05	
One-factor	2018.94	594	-	3.399	0.00	0.607	0.802	0.813	0.059
Two-factor	1833.432	593	185.508*	3.092	0.00	0.636	0.827	0.837	0.057
Three-factor	1735.872	592	97.56*	2.932	0.00	0.652	0.84	0.85	0.056
Four-factor (complete mediating)	1543.151	590	192.721*	2.616	0.00	0.7	0.866	0.875	0.051
Four-factor (incomplete mediating)	1514.907	588	28.244*	2.576	0.00	0.703	0.87	0.878	0.049

Note: * $p < 0.05$

TABLE 3
PARAMETER ESTIMATION OF FINAL MODEL AND RESULT OF HYPOTHESES

Hypotheses	Independent variables	→	Dependent variables	SD	t	Normalized estimation	Hypotheses
H1	Teamwork behavior	→	team commitment	0.104	2.335	0.164*	Supported
H2	Teamwork behavior	→	trust	0.083	3.643	0.238***	Supported
H3	Trust	→	team commitment	0.154	2.143	0.284*	Supported
H4	Perceived team support	→	teamwork behavior	0.067	9.020	0.821***	Supported
H5	Perceived team support	→	trust	0.072	9.560	0.744***	Supported
H6	Perceived team support	→	team commitment	0.131	4.267	0.517***	Supported

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Table 3 shows the incomplete mediating effects of the different variables of the four-factor model. Compared with the complete mediating model, the two additional paths (perceived team support→team commitment and teamwork behavior→trust), have shown significant influence. Moreover, although χ^2/df of the complete mediating four-factor model is lower than the standard value of 3, the fit in the incomplete mediating model is even better. Thus, the final model of this study was the incomplete mediating four-factor model; and hypotheses 1 to 6 were supported.

With regard to the influences of the independent variables on the dependent variable in the aspect of team commitment, perceived team support had the most significant influence (0.919), followed by trust (0.284), and then teamwork behavior (0.232). Perceived team support and trust are both assessed according to an individual's perceptions. However, the influence of these on team commitment differs significantly. The reason is that trust is dependent on others' words and behaviors, and, thus, this implies a risky position where the individual is vulnerable. For perceived team support, when individuals trust others, they would perceive their contribution; on the contrary, when individuals feel they are supported and valued, it means that their efforts are valued and their welfare considered by the team. Thus, compared with trust in others, perceived support is more likely to lead to returns for the team. The influence of perceived team support on trust, recorded as 0.94, demonstrates that perceived team support is very important within a team.

DISCUSSION

RELATIONSHIPS AMONG PERCEIVED TEAM SUPPORT, TEAMWORK BEHAVIOR, TRUST, AND TEAM COMMITMENT

First, with regard to the prior factors of team commitment, the results demonstrated that perceived team support, teamwork behavior, and trust would significantly influence team commitment, which supports the findings of Bishop et al. (2005), Costa (2003), Park et al. (2005), and Powell et al. (2006). Teamwork behavior in this study included coordination, cooperation, and information sharing. If individuals can participate in the work of a team, by having the opportunity to express their thoughts, and develop and fulfill their potential, they would tend to identify with, and depend on, the team. Trust, in this study, includes affective-based and cognitive-based trust. In other words, when individuals trust their colleagues within a team, they would be more comfortable, as the other members of the team would fill the roles of psychological comfort and models. Thus, an individual would be more willing to remain and work in a team long-term.

With regard to the total effects of the independent variables on the dependent variables, perceived team support was the variable most influential on team commitment. In other words, when individuals perceive that their efforts are valued and their welfare considered, their commitment to the team would be significantly enhanced. However, since perceived team support can significantly influence the team members, from the perspective of the organization, high-ranking management should pay attention to and show support for the team through various measures, such as the content of jobs, planning of salaries and allowances, promotion systems, and job protection in order to enhance the members' commitment to, and identification with, the team.

RELATIONSHIP BETWEEN TEAMWORK BEHAVIOR AND TRUST

Bligh et al. (2006) in their research on teams simply suggested the influences among the variables, and did not conduct a study to test what they proposed. They suggested that the interactions of the team would influence members' trust in others. The findings of the current study are consistent with the suggestions made by Bligh et al., and with the empirical results of the study by Powell et al. (2006). In other words, we found that teamwork behavior enhances the trust among team members. Notably, Powell et al. not only studied teams in the traditional workplace environment, but also examined how teamwork behavior influences virtual teams, and demonstrated that effective teamwork behavior significantly influenced trust in virtual teams to a degree that is even higher than that of ordinary teams.

However, interpersonal trust must be accumulated over the long-term, and it cannot be constructed by compulsion. Thus, in a team, coordination and cooperation among the individuals would allow the members to become familiar and sociable with each other. In addition, in order to accomplish the goal of a team, in the process of cooperation, individuals will be attempting to be compatible with others in order to construct positive interpersonal relationships.

RELATIONSHIPS AMONG PERCEIVED TEAM SUPPORT, TEAMWORK BEHAVIOR, AND TRUST

Research findings demonstrate that perceived team support significantly influences teamwork behavior and trust. In other words, the level of support that members perceive could influence their future attitudes and behaviors within the team, including their team commitment.

In addition, with regard to the total effects of the independent variables in this study on the dependent variables, perceived team support highly influenced teamwork behavior and trust. In a team, an individual cannot accomplish the assigned tasks only through his or her own efforts, thus, that individual's perception of support would lead to cooperation with colleagues and this further

builds trust. In the process, an individual would not only establish fruitful interactions and good relationships with colleagues, but would also be valued by others. Team members who have their value recognized are more willing to invest greater efforts for the team through greater commitment to work and better attitudes and behaviors (such as staying in the team). It is upon the employees' perception of organizational support that they would establish a trust in the organization and this would result in behaviors that benefit the organization.

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